

REMARKS

Reconsideration of this application is requested.

Applicants appreciate the Examiner's indication of allowability of claims 11 and 13-17 if rewritten in independent form. The dependence of these claims has been maintained, and the applicants consider the claims from which these claims depend to be allowable for the reasons presented below.

Claims 1-17 are pending in this application for the Examiner's review and consideration. Claims 2-12 have been amended to add the term "or a salt thereof" after the reference to compound. Support for this amendment can be found in the specification on, for example, page 6, line 14.

The Examiner is requested to reconsider the Section 112, second paragraph rejection of claims 3-5, 9-10 and 12 in view of the amendments to these claims. More specifically, claims 3-5 and 9-10 have been amended to add the term "the group consisting of" after the term "selected from" such that the claims recite standard Markush group language. Claim 3 has been amended to depend from claim 2, as suggested on page 2 of the Office Action by the Examiner. Claim 12 has been rewritten in independent form, essentially as suggested by the Examiner.

The Examiner is also requested to reconsider the Section 103(a) rejection of claims 1-10 and 12 as unpatentable over U.S. Patent No. 5,330,542 to Maeda *et al.* ("Maeda"). The applicants' invention is not obvious from, or suggested by, Maeda for the reasons that follow. Indeed, the applicants respectfully submit that the Examiner has not established a *prima facie* case of obviousness.

Maeda relates to the use of dyes in optical recording, particularly in making recordable compact discs.

In contrast, the present invention addresses the problem of developing colorants able to be used in ink-jet inks. There are many demanding performance requirements for colorants and inks intended for use in ink-jet printing. These are briefly summarized on page 1 of the instant specification (*e.g.*, page 1, lines 7-13). Thus, the colorant should be stable in the ink and not precipitate and block the tiny printer nozzles (which are typically half the diameter of a human hair). Yet at the same time the colorant desirably has limited solubility so as to enhance its wet fastness when printed. The colorant must also have the properties which allow the ink-jet inks to form discrete droplets and so fire effectively. The colorant, when

printed, must also display an exact chroma and hue so that the full range of colors may be achieved. The above requirements represent a major technical challenge.

A person faced with the demands imposed by ink-jet printing would be unlikely to look for a solution in Maeda, which, as discussed above, relates to the use of dyes in optical recording, particularly in making recordable compact discs. Such uses of dyes have very different technical requirements from uses in ink-jet printing, insofar as the dye used in optical recording is first dissolved in an organic solvent and then applied to the substrate by spin coating. In spin coating, the coating solution is firstly deposited on to the substrate via a dispenser. The substrate is then rotated to give a thin even film of the coating solution from which the solvent evaporates to yield a coated substrate. The quality of the coating is dependent on many interrelated factors, e.g., surface tension, viscosity, and rotation rate. Thus, spin coating does not involve ejection of liquids in droplet form through nozzles of such extremely small diameter. Consequently, optimizing the aqueous solubility of the dye is not an issue.

In view of these differences between spin coating and ink jet printing, a person faced with developing a colorant for use in ink-jet printing would be very unlikely to consult Maeda. Even if a person of ordinary skill working in the ink jet field did consult Maeda, it would not even remotely suggest that the dyes disclosed therein would be useful for ink-jet printing inks. Accordingly, there is no suggestion or motivation to modify Maeda to obtain the present invention. Thus, the applicants respectfully submit that a *prima facie* case of obviousness has not been established.

It is also worth noting that the disclosure of Maeda encompasses many thousands of dyes, and nothing in Maeda would motivate a person of ordinary skill to select the dyes of the present invention out of the broad disclosure therein.

Indeed, if a person of ordinary skill in the art even considered the Maeda reference, they would be more likely to synthesize dyes based on the Examples and structures disclosed therein and thus would not arrive at the dyes of the present invention. As the Examiner correctly points out on page 4 of the Office Action, none of the dyes specifically disclosed in Maeda have a ring A which is pyridyl and a ring B which is naphthyl. Thus, to arrive at the present invention starting from Maeda, a person of ordinary skill in the art would have to do the following:

- Decide to consult Maeda despite the fact that this reference is concerned with spin finish, a technology far removed from ink-jet printing.
- Decide to ignore the Examples in Maeda and instead pick pyridyl as ring A and naphthyl as ring B.
- Decide that the naphthyl ring must have a hydroxyl substituent ortho to the azo linking group and another substituent meta to the azo linking group.

Applicants respectfully submit that one of ordinary skill in the art would not take the above steps if they did not know of the invention beforehand. In other words, one of ordinary skill in the art would not arrive at the present invention based upon the disclosure in Maeda without resorting to hindsight reconstruction.

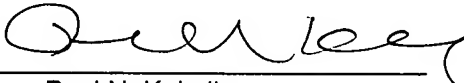
In sum, applicants respectfully submit that the Examiner has not established a *prima facie* case of obviousness in rejecting claims 1-10 and 12 over Maeda. Firstly, there is no suggestion or motivation to modify Maeda, which relates to the use of dyes in optical recording, to arrive at the compounds of the claimed invention, which were synthesized to solve many of the problems of ink-jet printing inks. Secondly, given the thousands of dyes disclosed in Maeda and the vastly remote chance that one of ordinary skill in the art would follow the path outlined above, there would be no reasonable expectation of success in modifying Maeda to arrive at the present invention. Thirdly, Maeda does not teach or suggest all of the limitations of the claimed invention, including, for example, a naphthyl ring that has a hydroxyl substituent ortho to the azo linking group and another substituent meta to the azo linking group.

Accordingly, claim 1 and claims 2-10, which depend, directly or indirectly, from claim 1, are all nonobvious over Maeda, as is claim 12.

Favorable reconsideration with allowance of the application is requested.

Respectfully submitted,

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